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NOTES ON GEOGRAPHIC DISTRIBUTION

New records of fishes (Actinopterygii: Ostariophysi) from the Upper Tapajós River Basin

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ABSTRACT: The first report of *Sartor* (Anostomidae) and *Tatia intermedia* (Auchenipteridae) for the Upper Tapajós River Basin are presented here. *Sartor* is very rare on collections, and is reported only from the Trombetas, Tocantins and Upper Xingu river basins. *Tatia intermedia* is registered in the upper reaches of the Araguaia, Tocantins, Xingu, and Capim rivers, tributaries of the lower Amazon River in Brazil, northwards to the Suriname coastal rivers and the Essequibo River in Guyana.

Since freshwater fishes are embedded within a terrestrial landscape that limits dispersal within and among drainage basins it can provide unique opportunities for the identification of distribution patterns, which may reflect continental changes and biogeographical patterns (Berra 2007; Olden *et al.* 2010). The Neotropical freshwater ichthyofauna is the most diverse of the world (Reis *et al.* 2003) and the distribution of most species remain unclear.

Located in the Brazilian Shield and with 1,784 km length, the Tapajós River is a large southern tributary of the Amazon River (Costa 2007). The Upper Tapajós drainage is defined as the region upstream the confluence of the Teles Pires and Juruena rivers (Bertaco and Garutti 2007). As part of a general taxonomic revision of fish species from the Upper Juruena River, we have been examining the fish collection from this region deposited at LIRP (Laboratório de Ictiologia de Ribeirão Preto), São Paulo, Brazil. *Sartor* aff. *elongatus* measurements were summarized in Table 1 and follow Santos and Jégu (1987) with the exclusion of interdosal distance, head height, snout height, and snout width. In this paper we report the first record of one genus and one species of fish for the Upper Tapajós River Basin. Fishes were collected under SEMA (Secretaria de Estado do Meio Ambiente - Mato Grosso) permit # 11/2010.

ORDER CHARACIFORMES

Anostomidae

Sartor aff. *elongatus* (Figure 1A)

Sartor is very rare on collections and only three valid species are recognized. *S. elongatus* Santos and Jégu, 1987 is reported from the Trombetas River Basin; *S. respectus* Myers and Carvalho, 1959 from the Upper Xingu River Basin; and *S. tucuruiense* Santos and Jégu, 1987 from the Tocantins River Basin (Santos and Jégu 1987; Garavello and Britski 2003; Britski and Garavello 2007a).

The nine specimens collected (Appendix 1) in the Upper Juruena River (Figure 2) can be distinguished from *S. respectus* by having 16 circumpeduncular scales (vs. 12). It differs from *S. tucuruiense* by body depth (18.1-19.8 vs. 23-25.9% of SL), caudal peduncle length (15-18.1 vs. 18.5-20% of SL), caudal peduncle depth (8.6-9.8 vs. 10.4-11.2% of SL), interorbital width (38-41.8 vs. 43.3-45.5% of HL), head width (40.4-50.6 vs. 54.9-56.2% of HL), and orbital diameter (21-23.7 vs. 18.5-20.4% of HL). Despite the sharing of an elongated and thin body (up to 23% and 15.7% in SL, respectively) with *S. elongatus*, the specimens from Juruena River are distinguished from *Sartor elongatus* by the caudal peduncle length (15-18.1 vs. 19.2-22.1% of SL), and by the number of dark vertical bands (7-9 vs. 12-16). Santos and Jégu (1987) reported the presence of twelve to sixteen inconspicuous dark vertical bands dorsally on body not reaching the lateral line in *S. elongatus*. Facing the lack of *Sartor elongatus* from different life stages to perceive, or not, ontogenetic modifications on color pattern, the presence of only 7-9 dark bands in examined specimens from Juruena River Basin is interpreted as a

TABLE 1. Morphometric data of *Sartor* aff. *elongatus*, LIRP 8176, from the Upper Juruena River Basin (n = 9). SD = standard deviation.

	Range	Mean	SD
Standard lenght (mm)	59.5 - 79.8	70.9	-
Percents of standard length			
Body depth	18.1 - 19.8	19.0	0.5
Body width	13.0 - 14.1	13.5	0.4
Predorsal distance	45.8 - 48.3	47.3	0.7
Prepelvic distance	49.9 - 54.3	51.4	1.3
Preanal distance	74.6 - 78.6	76.3	1.3
Preadipose distance	83.8 - 86.1	84.4	0.7
Dorsal to adipose	23.9 - 26.0	25.0	0.6
Caudal peduncle depth	8.6 - 9.8	9.4	0.4
Caudal peduncle lenght	15.0 - 18.1	16.3	1.0
Head lenght	25.4 - 28.1	26.9	0.8
Percents of head length			
Interorbital width	38.0 - 41.8	39.4	1.3
Head width	40.4 - 50.6	46.1	3.3
Snout lenght	40.1 - 48.7	43.7	2.3
Orbital diameter	21.0 - 23.7	22.5	0.9

difference between both populations. Thus, regarding the fact of the specimens collected in the Upper Tapajós do not completely fit the morphometric data and coloration features attributed to *S. elongatus* we prefer to refer to it as *Sartor* aff. *elongatus*.

Figure 1. A) *Sartor* aff. *elongatus*, LIRP 8176, 78,65 mm SL. B) *Tatia intermedia*, LIRP 8189, 37.04 mm SL.

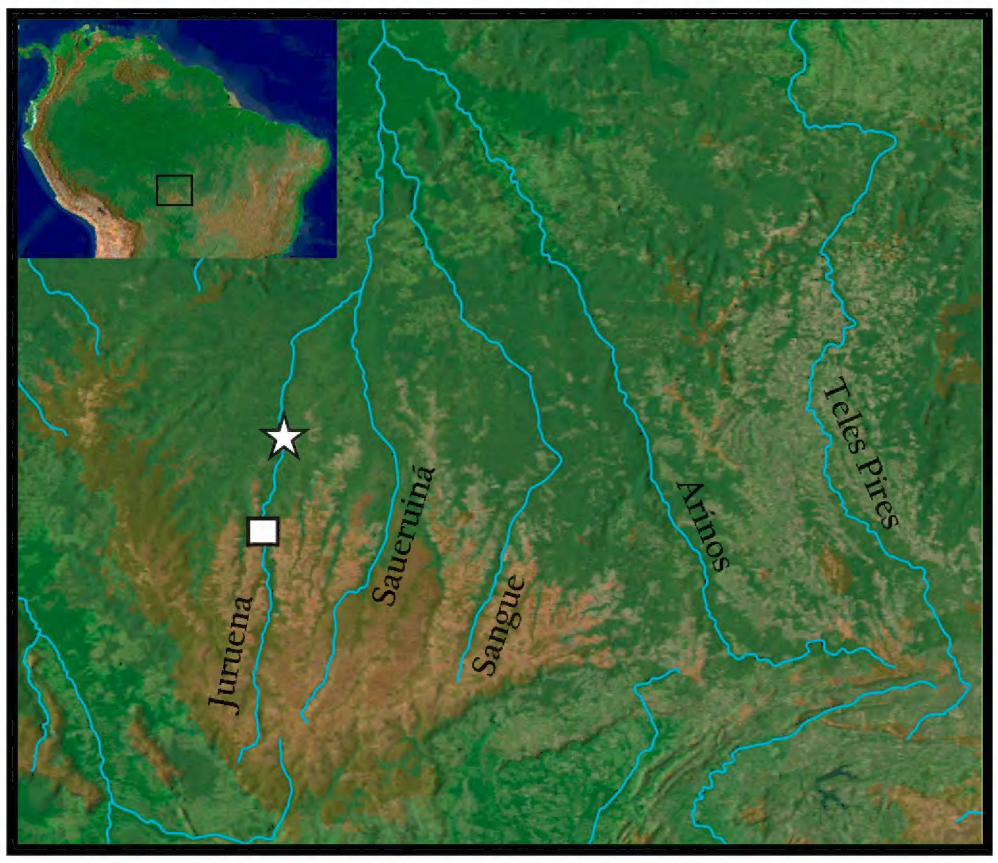

Figure 2. Records from *Sartor* aff. *elongatus* (star) and *Tatia intermedia* (square) in the Upper Juruena River, Upper Tapajós Basin.

Order Siluriformes

Auchenipteridae

Tatia intermedia (Steindachner 1877) (Figure 1B)

The specimens collected in the Upper Juruena River (Figure 2) have the externally recognizable characteristics of *Tatia*, proposed by Sarmento-Soares and Martins-Pinheiro (2008): caudal peduncle laterally compressed and deep with middorsal keel, eyes relatively large, first unbranched anal fin-ray not segmented and anal fin base modified in males. *T. intermedia* is distinguished from the other congeners by the presence of ellipsoid spots on body and short post-cleithral process not reaching vertical through origin of dorsal fin (Sarmento-Soares and Martins-Pinheiro 2008). According to the recent taxonomic revision of the genus performed by Sarmento-Soares and Martins-Pinheiro (2008), *T. intermedia* is the most widely distributed member of the genus, occurring in the upper reaches of the Araguaia, Tocantins, Xingu, Capim, small tributaries of the lower Amazon River in Brazil, Essequibo River in Guyana, and coastal rivers of Surinam. The presence of this species on the Upper Tapajós River Basin further extends its distribution.

The description of several species in the last years (*e.g.* Moreira *et al*. 2002; Lucena 2003; Britski and Garavello 2005; 2007b; Bertaco and Carvalho 2005a, b; 2006; Fisch-Muller *et al.* 2005; Bertaco and Garutti 2007; Bertaco and Malabarba 2007; Lima *et al.* 2007; Britski and Lima 2008) reveal that the ichthyofauna of the Upper Tapajós River Basin is highly endemic and poorly known. The present work extends the distribution of *Sartor* aff. *elongatus* and *Tatia intermedia* adding these species records for the Upper Tapajós ichthyofauna.

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Appendix 1. Voucher specimens.

LIRP 8176, 9, *Sartor* aff. *elongatus* Brasil, Estado do Mato Grosso, Município de Sapezal, PCH Telegráfica, Rio Juruena. Bacia do Rio Tapajós 12°50'59" S, 58°55'36" W. Col. Rodrigo. J. Ilário. LIRP 8189, 10, *Tatia intermedia* Brasil, Estado do Mato Grosso, Município de Sapezal, PCH Cidezal, Rio Juruena. Bacia do Rio Tapajós 13°22'39" S, 59°00'57" W. Col. Rodrigo. J. Ilário.